Patent claims

1. An inductive component (1) for the formation of a magnetic circuit, comprising at least one wire winding (3) and at least one core (4) with a ferromagnetic core material, the core (4) comprising a gap (7, 8) and at least one further gap (8, 7) to interrupt the magnetic circuit, the gaps (7, 8) each having a gap width (9) of at least 1.0 mm, characterized in that the gap width (9) is selected from the range from 2.0 mm to 10 mm, inclusive.

2. The component as claimed in claim 1, the core (4) comprising at least two parts (5) which are arranged opposed to each other across the gaps (7, 8) and separated from each other by the gap widths (9).

3. The component as claimed in claim 1 or 2, at least one of the gaps (7, 8) being an air gap.

4. The component as claimed in one of claims 1 to 3, the gaps (7, 8) having an essentially equal gap width (9).

5. The component as claimed in one of claims 1 to 4, the wire winding (3) comprising an inner region (10) and an outer region (11) and the gaps (7, 8) of the core (4) being arranged in the inner region (10) and/or in the outer region (11) of the wire winding (3).

6. The component as claimed in one of claims 1 to 5, the core (4) being essentially symmetrical.

7. The component as claimed in one of claims 1 to 6, the core material of the core (4) being capable of accepting high frequencies.

8. The component as claimed in one of claims 1 to 7, the wire winding (3) comprising a high-frequency braided wire (14) with a multiplicity of individual wires that are electrically insulated from one another.

9. The component as claimed in claim 8, the individual wires having at least an individual wire diameter that is selected from the range from 10 µm to 50 µm, inclusive.

10. The component as claimed in claim 8 or 9, the multiplicity being selected from the range from 5 to 100, inclusive.

11. The component as claimed in one of claims 1 to 10, the component being a choke coil or a transformer.

12. The component as claimed in one of claims 1 to 11, there being at least one cooling device (20) for cooling the wire winding (3), which device comprises at least one composite material with at least one polymer material and at least one thermally conductive filler.

13. The component as claimed in claim 12, the cooling device (20) comprising at least one film (21) with the composite material which is in direct, thermally conductive contact with the wire winding.

14. The component as claimed in claim 12 or 13, the cooling device (20) having at least one casting compound (22), which comprises at least one further composite material with at least one further

polymer material and at least one further thermally conductive filler and which is

in direct, thermally conductive contact with the wire winding (3) and/or the film (21).

15. The component as claimed in one of claims 12 to 14, an intermediate space (27) that is present between the film (21) and the wire winding (3) and/or between the casting compound (22) and the wire winding (3) comprising a thermally conductive material for thermally bridging the intermediate space (27).

16. The component as claimed in claim 15, the thermally conductive material being selected from the group comprising oil, paste, wax and/or adhesive.

17. The component as claimed in one of claims 12 to 16, the film (21) with the composite material and/or the casting compound (22) with the further composite material being connected in a thermally conducting manner by heat conduction to a heat sink (25).

18. The use of a component as claimed in one of claims 1 to 17 in an electronic ballast, in the case of which an electrical input power is converted into an electrical output power.

19. The use as claimed in claim 18, the component being operated with an AC voltage at a frequency from the range from 100 kHz to 200 MHz, inclusive.

20. The use as claimed in claim 18 or 19, an AC voltage of up to 2000 V being used.

21. The use as claimed in claim 18 or 19, a voltage pulse with an AC voltage of up to 40 kV being used.